DESK WITH REMOVABLE MULTIPLE POSITION AND SIDED WRITING SURFACE

BACKGROUND OF THE INVENTION

[001] This invention relates generally to a desk with storage and removable, multi-positional and multi-sided writing surfaces which may be different types of surfaces.

[002] Traditionally, there was the ubiquitous blackboard or slate, which was written on with sticks of chalk. Commonly today, the board is white in color and is written on with special felt markers. The whiteboard provides erasable information, much like the blackboard but offers a different type of writing surface. Often children or artists attempting to achieve a specific type of effect in a sketch or drawing will have a desire to work solely on one type of surface or may desire to use both types of surfaces interchangeably.

[003] Young children often need a smaller sized workstation where they can experiment with different mediums, a vertical surface, similar to that of an easel is ideal for this purpose. Yet the need for a flat table for other various craft products is also existent.

[004] Moreau, U.S. Pat. App. No. 20030226948, teaches an easel workstation consisting of four legs attached to a base so that the legs form a pyramid structure. This design does not include a nonpermanent means to write on the board, nor does it include a flat working surface.

[005] Holdredge, et al., U.S. Pat. No. 6,575,103, teaches a combination table/easel including a worksurface with an erasable surface which is able to be positioned as either a table or easel. However, this is an easily collapsible design, not very sturdy in nature, and does not include a dual sided writing surface or storage capabilities.

[006] Previous systems do not provide for both a flat and upright desk/easel apparatus designed to be compactly stored and stow supplies inside.

SUMMARY OF THE INVENTION

[007] It is envisioned that the present invention may be utilized as a free standing desk with a removable, repositionable upper surface which has a different surface on each side of the upper surface. This desk provides for a flat and upright desk/easel which can be compactly stored and has a storage compartment or drawer to stow supplies within the frame.

[008] According to one aspect of the present invention, a desk is disclosed comprising an upper surface, a frame and four support members. The upper surface has a top side and a bottom side. The top side is made of a first material and the bottom side is made of a second material. The frame is comprised of a first member, a second member, a third member and a fourth member, each of the members having a first end, a second end, a top end and a bottom end. The first end of the first member is connected to the second end of the second member. The first end of the second member is connected to the second end of the third member. The first end of the third member is connected to the second end of the fourth member. The first end of the fourth member is connected to the second end of the first member to form the frame having a top side and a bottom side. Each top end of each member has a recessed groove along the top end for the receipt of the upper surface into the recessed groove and the upper surface is supported horizontally and flush with each top end of each member. Each of the four support members have a first and a second end and each first end of each member is in contact with the ground and each second end of each said member is in contact with the frame.

[009] According to another embodiment, a desk is disclosed comprising an upper surface, a frame, a lower surface, four support members and at least one additional support member. The upper surface has a top side and a bottom side. The top side is made of a first material and the bottom side is made of a second material. The frame comprised of a first member, a second member, a third member and a fourth member, each of the members having a first end, a second end, a top end and a bottom end. The first end of the first member is connected to the second end of the second member. The first end of the second member is connected to the second end of the third member. The first end of the third member is connected to the second end of the fourth member. The first end of the fourth member is connected to the second end of the first member to form the frame having a top side and a bottom side. Each top end of each member has a recessed groove along the top end for the receipt of the upper surface into the recessed groove and the upper surface is supported horizontally and flush with each top end of each member. The top end of the first member and the top end of the third member each have a recessed gap for receipt of the upper surface. The recessed gap has a horizontal bottom edge to support the upper surface and three vertical edges to support the upper surface from tipping away from the vertical position. The recessed gap in the first member is parallel to and aligned with the recessed gap in the third member. Each of the four support members has a first and a second end and each first end of each member is in contact with the ground and each second end of each member is hingedly connected to the frame at an angle between 90 and 145 degrees. The lower surface is attached to the bottom end of each member of the frame to provide a storage compartment contained within the frame and covered by the upper surface. The additional support members, each have a first end and a second end. The first end is connected to

one of the four support members and the second end is connected to another of the four support members.

[010] Yet another embodiment discloses a desk comprising an upper surface, a frame, four support members and at least two cross members. The upper surface has a first surface and a second surface, each surface having a first edge, a second edge, a third edge and a fourth edge. The first surface is made of a first material and the second surface is made of a second material. The first edge of the first surface is attached to the first edge of the second surface by a hinged mechanism. The frame is comprised of a rectangular surface having a substantially rectangular concentric hole, top, bottom, a first inner edge, first outer edge, second inner edge, second outer edge, third inner edge, third outer edge, fourth inner edge and fourth outer edge. The four support members each have a first and a second end, each first end of each support member is in contact with the ground and each second end of each member is in contact with the frame. The cross members each of said members having a first end, a second end, an inner surface, a top end and a bottom end, wherein each said first end and each said second end of each said cross member is connected to said bottom of said frame to support the weight of said upper surface.

[011] According to another embodiment, a desk is disclosed comprising an upper surface, a frame, four support members, at least one storage tray and at least two cross members. The upper surface is further comprised of a first surface made of a first material and a second surface made of a second material, each surface having a first edge, a second edge, a third edge and a fourth edge. The first edge of the first surface is attached to the first edge of the second surface by a hinged mechanism. The frame is comprised of a rectangular surface having a substantially rectangular concentric hole, top, bottom, a first inner edge, first outer edge, second inner edge, second outer edge, third inner edge, third outer edge,

fourth inner edge and fourth outer edge. The four support members each have a first and a second end. Each first end of each member is in contact with the ground and each second end of each member is in contact with the frame. The at least one storage tray is removably contained below the frame. The at least two cross members each have a first end, a second end, an inner surface, a top end and a bottom end. Each first end and each second end of each cross member is connected to the bottom of the frame to support the weight of the upper surface.

[012] These and other features, aspects and advantages of the present invention will become better understood with reference to the following drawings, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[013] Figures 1 is an elevational view according to an embodiment of the present invention;

[014] Figures 2A and 2B depict a removable upper surface supported vertically according to an embodiment of the present invention;

[015] Figure 3 depicts an elevational perspective view according to an embodiment of the present invention;

[016] Figures 4A and 4B depict the dual sided upper surface according to an embodiment of the present invention;

[017] Figure 5 depicts a desk according to another embodiment of the present invention;

[018] Figure 6 depicts a hingedly attached upper surface positioned as an easel according to an embodiment of the present invention; and

[019] Figure 7 depicts another embodiment of the removable upper surface according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[020] The following detailed description is of the best currently contemplated modes of carrying out the invention. The description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention, since the scope of the invention is best defined by the appended claims.

[021] It is envisioned that the present invention provides a desk with a removable upper surface which can be easily repositioned in a variety of different manners. Figures 1-3 depict a preferred embodiment where the desk 10, is shown with a frame 50 having a rectangular shape. The frame 50 is comprised of a first member 52 having a first end 54, a second end 56, a top end 58 and a bottom end 350, a second member 60 having a first end 62, a second end 64, a top end 66 and a bottom end 352 (not visible), a third member 68 having a first end 70, a second end 72, a top end 74 and a bottom end 354 (not visible) and a fourth member 76 having a first end 78, a second end 80, a top end 82 and a bottom end 356. The first end 54 of the first member 52 is connected substantially perpendicular to the second end 64 of the second member 60. The first end 62 of the second member 60 is connected substantially perpendicular to the second end 72 of the third member 68. The first end 70 of the third member 68 is connected substantially perpendicular to the second end 80 of the third member. The first end 78 of the fourth member 76 is connected substantially perpendicular to the second end 56 of the first member 52 to complete the frame 50 making it substantially rectangular in shape. The frame 50 is supported by four support members 84, 90, 96 (not visible), 102, each having a first end 88, 94, 100 (not visible), 106 in contact with the ground and a second end 86, 92, 98 (not visible), 104 attached to the frame 50.

[022] As shown in Figure 1, additional support members 108 may be included. These additional members 108 each have a first end 110 and a second end 112, each connected to a different support member 84, 90, 96, 102. The shown support member 108 is connected at the first end 110 to a support member 84 and at the second end 112 to another support member 90.

[023] In an alternate embodiment, depicted in Figures 2A-B, the upper surface 20 of the desk 10 can be positioned vertically. To support the upper surface 20 in such a position the second member 60 of the frame 50 has a recessed gap 138 partially through the member 60. The horizontal bottom edge 140 of the recessed gap 138 supports the weight of the upper surface 20 while the member 60 and the three vertical edges 142, 144, 146 support the upper surface 20 and prevent it from moving away from its horizontal position. An identical recessed gap 148 (see Figure 3) on the fourth member 76 of the frame 50 aligned and parallel with the recessed gap 138 on the second member 60 of the frame 50 supports the opposite side of the upper surface. Figure 3 also depicts a detailed view of the connection between the vertical support members and frame. This connection is made at an angle 178 which can range from 90 degrees to 145 degrees. As depicted in Figure 1, it is intended that the upper surface 20 of the desk 10 is able to lie within the frame 50 horizontal and flush with the top side 58, 66, 74, 82 of each member 52, 60, 68, 76 of the frame 50. The upper surface 20 is supported by a recessed groove 130, 132, 134, 136 (as seen in Figures 2 and 3) along the upper surface 58, 88, 74, 82 of each member 52, 60, 68, 76 of the frame 50.

[024] As shown in Figure 4, the desk 10 has an upper surface 20, which has a top side 22, made of a first material chosen from the group consisting of blackboard, whiteboard, slate, dry erase or corkboard. The upper surface 20 also has a bottom side 24, made of a second material chosen from the group consisting

of blackboard, whiteboard, slate, dry erase or corkboard. As shown in Figure 4A, one side of the upper surface may contain a gameboard surface 28.

[025] An alternate embodiment as depicted in Figures 5-7 is a similar desk 500 with an upper surface 180 comprised of a first surface 204 and a second surface 216. The first surface 204 has a first edge 206, a second edge 208, a third edge 210 and a fourth edge 212 and the second surface 216 has a first edge 218, a second edge 220, a third edge 222 and a fourth edge 224. The first edge 206 of the first surface 204 is connected to the first edge 218 of the second surface 216 with a hinged mechanism 200. This embodiment includes a frame 502 which has an outer shape that may be substantially rectangular and an inner substantially concentric hole. As depicted in Figure 5, with a substantially rectangular shape there is a top of the frame 504, a first inner surface 506, a first outer surface 508, a second inner surface 510, a second outer surface 512, a third inner surface 514, a third outer surface 516, a fourth inner surface 514 and a fourth outer surface 516. This embodiment may also include a decorative design 350 on the top surface of the frame 502. The desk 500 has at least two cross members. As depicted in Figure 5, there are six cross members 310, 304, 560, 570, 580, 590. Four of the cross members 560, 570, 580, 590 are connected to the bottom of the frame 502 near connected corners of inner edges. For example cross member 560 is connected near the joint between the second inner edge 510 and the first inner edge 506. The corner cross members provide support for the upper surface 180 as well as stability for the frame 502. The two remaining cross members 304, 310 are positioned parallel with the second inner edge 510 of the frame 502.

[026] The present invention also envisions at least one storage tray 300, 302 removably contained below the frame 502. This tray is supported by two cross members 304, 310. Each cross member 304, 310 has a first end 312 and a second end 314. The first end 312 is connected to the bottom of the frame 502

under the first inner edge 506 and the second end 314 is connected to the bottom of the frame 502 under the third inner edge 514. Each of the parallel rails 304, 310 has a protruding ridge 316, on the inner surface which supports the storage tray 300, 302 and allows the storage tray 300, 302 to slide freely under the frame 502.

[027] Additionally this embodiment may include two recessed openings 238, 240 vertically through the second inner edge 510 of the frame 502 and the fourth inner edge 518 of the frame 502. These recessed openings 238, 240 are intended to ease the process of lifting the upper surface 20 from the frame 50. As depicted in Figure 6, the desk 500 can support the upper surface 180 when the third edge 222 of the second surface 216 is in contact with cross members 560, 590 and first inner edge 506 of the frame 502, while the third edge 210 of the first surface 204 is in contact with cross members 570, 580 and the third inner edge 514 of the frame 502. Figure 7 depicts the upper surface 180 positioned so the first surface 204 is directly on top of the second surface 216 and they fit within the frame 502 and flush with the top of the frame 504.

[028] It should be understood, of course, that the foregoing relates to preferred embodiments of the invention and that modifications may be made without departing from the spirit and scope of the invention as set forth in the following claims.